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|--|--|---------------|-------------|----|
| <b>UTILITY<br/>PATENT APPLICATION<br/>TRANSMITTAL</b><br><br>(Only for new nonprovisional applications under 37 CFR 1.53(b)) | Attorney Docket No.                            | 99-038        | Total Pages | 87 |
|  | First Named Inventor or Application Identifier |               |             |    |
|  | DENNIS P. CURRAN ET AL.                        |               |             |    |
|  | Express Mail Label No.                         | EL033815811US |             |    |

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| <b>APPLICATION ELEMENTS</b><br>See MPEP chapter 600 concerning utility patent application contents. | <b>ADDRESS TO:</b><br>Assistant Commissioner for Patents<br>Box Patent Application<br>Washington, DC 20231 |
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| <p>1. <input checked="" type="checkbox"/> Fee Transmittal Form<br/>(Submit an original, and a duplicate for fee processing)</p> <p>2. <input checked="" type="checkbox"/> Specification [Total Pages <b>71</b>]<br/>(preferred arrangement set forth below)</p> <ul style="list-style-type: none"><li>- Descriptive title of the Invention</li><li>- Cross References to Related Applications</li><li>- Statement Regarding Fed sponsored R &amp; D</li><li>- Reference to Microfiche Appendix</li><li>- Background of the Invention</li><li>- Brief Summary of the Invention</li><li>- Brief Description of the Drawings (if filed)</li><li>- Detailed Description</li><li>- Claim(s)</li><li>- Abstract of the Disclosure</li></ul> <p>3. <input checked="" type="checkbox"/> Drawing(s) (35 USC 113) [Total Sheets <b>6</b>]</p> <p>4. Oath or Declaration [Total Pages <b>6</b>]</p> <p>a. <input checked="" type="checkbox"/> Newly executed (original or copy)</p> <p>b. <input type="checkbox"/> Copy from a prior application (37 CFR 1.63(d))<br/>(for continuation/divisional with Box 17 completed)<br/>[Note Box 5 below]</p> <p>i. <input type="checkbox"/> <u>DELETION OF INVENTOR(S)</u><br/>Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).</p> <p>5. <input type="checkbox"/> Incorporation By Reference (useable if Box 4b is checked)<br/>The entire disclosure of the prior application, from which a copy of the oath or declaration is supplied under Box 4b, is considered as being part of the disclosure of the accompanying application and is hereby incorporated by reference therein.</p> | <p>6. <input type="checkbox"/> Microfiche Computer Program (Appendix)</p> <p>7. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)</p> <p>a. <input type="checkbox"/> Computer Readable Copy</p> <p>b. <input type="checkbox"/> Paper Copy (identical to computer copy)</p> <p>c. <input type="checkbox"/> Statement verifying identity of above copies</p> |
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| <b>ACCOMPANYING APPLICATION PARTS</b>   |  |
| 8. <input type="checkbox"/>             | Assignment Papers (cover sheet & document(s))  |
| 9. <input type="checkbox"/>             | 37 CFR 3.73(b) Statement <input checked="" type="checkbox"/> Power of Attorney<br>(when there is an assignee)            |
| 10. <input type="checkbox"/>            | English Translation Document (if applicable)   |
| 11. <input type="checkbox"/>            | Information Disclosure Statement (IDS)/PTO-1449 <input type="checkbox"/> Copies of IDS Citations                         |
| 12. <input type="checkbox"/>            | Preliminary Amendment  |
| 13. <input checked="" type="checkbox"/> | Return Receipt Postcard (MPEP 503)<br>(Should be specifically itemized)  |
| 14. <input checked="" type="checkbox"/> | Small Entity <input type="checkbox"/> Statement filed in prior application, Statement(s) Status still proper and desired |
| 15. <input type="checkbox"/>            | Certified Copy of Priority Document(s)<br>(if foreign priority is claimed)   |
| 16. <input checked="" type="checkbox"/> | Other: * Assignment to the<br>University of Pittsburgh will<br>follow; Cert. of Express Mailing                          |

17. If a **CONTINUING APPLICATION**, check appropriate box and supply the requisite information:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: \_\_\_\_\_ / \_\_\_\_\_

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|         | Date: February 18, 2000    |           |                |          |                |
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Applicant or Patentee: DENNIS P. CURRAN ET AL

Application or Patent No.: / \_\_\_\_\_ to be assigned

Filed or Issued: \_\_\_\_\_ February 18, 2000

For: REACTION AND SEPARATION METHODS**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) and 1.27(d)) -NONPROFIT ORGANIZATION**

I hereby declare that I am an official empowered to act on behalf of the nonprofit organization identified below:

Name of Organization University of PittsburghAddress of Organization Cathedral of LearningPittsburgh, PA 15260 U.S.A.**TYPE OF ORGANIZATION**

- ☒ University or Other Institution of Higher Education
- ☐ Tax Exempt Under Internal Revenue Service Code (26 USC 501(a) and 501(c)(3))
- ☐ Nonprofit Scientific or Educational Under Statute of State of the United States of America
- (Name of State \_\_\_\_\_)
- (Citation of Statute \_\_\_\_\_)
- ☐ Would Qualify as Tax Exempt Under Internal Revenue Service Code (26 USC 501(a) and 501(c)(3)), if Located in the United States of America
- ☐ Would Qualify as Nonprofit Scientific or Educational Under Statute of State of the United States of America if Located in the United States of America
- (Name of State \_\_\_\_\_)
- (Citation of Statute \_\_\_\_\_)

I hereby declare that the nonprofit organization identified above qualifies as a nonprofit organization, as defined in 37 CFR 1.9(e), for purposes of paying reduced fees under Sections 41(a) and (b) of Title 35, United States Code, with regard to the invention entitled

**REACTION AND SEPARATION METHODS**by inventor(s) DENNIS P. CURRAN ET AL

described in

☒ the specification filed herewith.

☐ application no. / \_\_\_\_\_, filed \_\_\_\_\_.

☐ patent no. \_\_\_\_\_, issued \_\_\_\_\_.

I hereby declare that rights under contract or law have been conveyed to, and remain with, the nonprofit organization, with regard to the above identified invention.

If the rights held by the nonprofit organization are not exclusive, each individual, concern or organization having rights to the invention is listed below\* and no rights to the invention are held by any person, other than the inventor, who could not qualify as a small business concern under 37 CFR 1.9(d), or by any concern that would not qualify as a small business concern under 37 CFR 1.9(d), or a nonprofit organization under 37 CFR 1.9(e)

\*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27).

Name \_\_\_\_\_

Address \_\_\_\_\_

☐ INDIVIDUAL      ☐ SMALL BUSINESS CONCERN      ☐ NONPROFIT ORGANIZATION

Name \_\_\_\_\_

Address \_\_\_\_\_

☐ INDIVIDUAL      ☐ SMALL BUSINESS CONCERN      ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Name of Person Signing \_\_\_\_\_ Frances J. Connell

Title in Organization \_\_\_\_\_ Director, Office of Technology Transfer and  
Intellectual Property

Address of Person Signing \_\_\_\_\_ 200 Gardner Steel Conference Center  
University of Pittsburgh, Pittsburgh, PA 15260 U.S.A.

SIGNATURE \_\_\_\_\_ Date \_\_\_\_\_

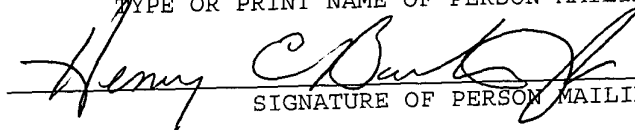
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### CERTIFICATION OF EXPRESS MAILING

I hereby certify that the attached Utility Patent Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date February 28, 2000, in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EL033815811US, addressed to the: Assistant Commissioner for Patents, Box PATENT APPLICATION, Washington, D.C. 20231.

Henry E. Bartony, Jr.

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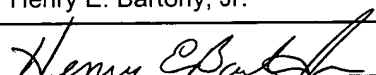
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U.S. Patent Application Serial No.: TO BE ASSIGNED  
Entitled: REACTION AND SEPARATION METHODS  
Attorney Docket No.: 99-038

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| <b>FEE TRANSMITTAL</b><br><br>Note: Effective October 1, 1997.<br>Patent fees are subject to annual revision. |  | <b>Complete if Known</b> |  |
| <b>TOTAL AMOUNT OF PAYMENT</b> (\$ ) 648.00   |  | Application Number       |  |
|   |  | Filing Date              |  |
|   |  | First Named Inventor     |  |
|   |  | Group Art Unit           |  |
|   |  | Examiner Name            |  |
|   |  | Attorney Docket Number   |  |

| METHOD OF PAYMENT (check one)   | FEE CALCULATION (continued)  |  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
|---|--|--|----------------------------|-----------------|----------|---------|--------------------|-------------------------------------|---------|---------|-------------------|---|---------|---------|------------------|---------------------------|---------|-----------|--------------------|--|---------|----------|------------------------|--|---------------------|------------|------------|---|--------------|---------|----------------|--|-----------|---------|---------|---|----------------------------|---------|---------|--|-----------------------------|-----------|---------|---|---------------|---------------|-----------------|--|--------|---------|------------------------|------------------|--------|---------|-----------------------------------|--|---------|---------|--------------------------|--------------------------|--------|-----------|---|---|--------|---------|---|----------------------------------|---------------------|-----------|---------|------------------------------------|--|-----------|---------|--------------------------------|--|---------|---------|------------------|--|---------|---------|-----------------|--|---------|---------|-------------------------------|--|--------|--------|---|--|---------|---------|---|--|--------|--------|--|--|---------|---------|---|--|---------|---------|--|--|---------------------------|--|--|--|---------------------------|--|--|--|------------------------------------|--|--------------------------------|--|
| <p>1. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:</p> <p>Deposit Account Number: 02-1065</p> <p>Deposit Account Name: BARTONY &amp; HARE</p> <p><input checked="" type="checkbox"/> Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17    <input type="checkbox"/> Charge the Issue Fee Set in 37 CFR 1.18 at the Mailing of the Notice of Allowance</p> <p>2. <input checked="" type="checkbox"/> Payment Enclosed:<br/> <input checked="" type="checkbox"/> Check    <input type="checkbox"/> Money Order    <input type="checkbox"/> Other</p>  | <p><b>3. ADDITIONAL FEES</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Large Entity Fee Code (\$)</th> <th>Small Entity Fee Code (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>105 130</td><td>205 65</td><td>Surcharge - late filing fee or oath</td><td></td></tr> <tr><td>127 50</td><td>227 25</td><td>Surcharge - late provisional filing fee or cover sheet.</td><td></td></tr> <tr><td>139 130</td><td>139 130</td><td>Non-English specification</td><td></td></tr> <tr><td>147 2,520</td><td>147 2,520</td><td>For filing a request for reexamination</td><td></td></tr> <tr><td>112 920*</td><td>112 920*</td><td>Requesting publication of SIR prior to Examiner action</td><td></td></tr> <tr><td>113 1,840*</td><td>113 1,840*</td><td>Requesting publication of SIR after Examiner action</td><td></td></tr> <tr><td>115 110</td><td>215 55</td><td>Extension for reply within first month</td><td></td></tr> <tr><td>116 400</td><td>216 200</td><td>Extension for reply within second month</td><td></td></tr> <tr><td>117 950</td><td>217 475</td><td>Extension for reply within third month</td><td></td></tr> <tr><td>118 1,510</td><td>218 755</td><td>Extension for reply within fourth month</td><td></td></tr> <tr><td>128 2,060</td><td>228 1,030</td><td>Extension for reply within fifth month</td><td></td></tr> <tr><td>119 310</td><td>219 155</td><td>Notice of Appeal</td><td></td></tr> <tr><td>120 310</td><td>220 155</td><td>Filing a brief in support of an appeal</td><td></td></tr> <tr><td>121 270</td><td>221 135</td><td>Request for oral hearing</td><td></td></tr> <tr><td>138 1,510</td><td>138 1,510</td><td>Petition to institute a public use proceeding</td><td></td></tr> <tr><td>140 110</td><td>240 55</td><td>Petition to revive - unavoidable</td><td></td></tr> <tr><td>141 1,320</td><td>241 660</td><td>Petition to revive - unintentional</td><td></td></tr> <tr><td>142 1,320</td><td>242 660</td><td>Utility issue fee (or reissue)</td><td></td></tr> <tr><td>143 450</td><td>243 225</td><td>Design issue fee</td><td></td></tr> <tr><td>144 670</td><td>244 335</td><td>Plant issue fee</td><td></td></tr> <tr><td>122 130</td><td>122 130</td><td>Petitions to the Commissioner</td><td></td></tr> <tr><td>123 50</td><td>123 50</td><td>Petitions related to provisional applications</td><td></td></tr> <tr><td>126 240</td><td>126 240</td><td>Submission of Information Disclosure Stmt</td><td></td></tr> <tr><td>581 40</td><td>581 40</td><td>Recording each patent assignment per property (times number of properties)</td><td></td></tr> <tr><td>146 790</td><td>246 395</td><td>Filing a submission after final rejection (37 CFR 1.129(a))</td><td></td></tr> <tr><td>149 790</td><td>249 395</td><td>For each additional invention to be examined (37 CFR 1.129(b))</td><td></td></tr> <tr><td colspan="3">Other fee (specify) _____</td><td></td></tr> <tr><td colspan="3">Other fee (specify) _____</td><td></td></tr> <tr> <td colspan="2" style="text-align: right;">* Reduced by Basic Filing Fee Paid</td> <td colspan="2" style="text-align: right;"><b>SUBTOTAL (3)</b> (\$ ) 0.00</td> </tr> </tbody> </table> | Large Entity Fee Code (\$)   | Small Entity Fee Code (\$) | Fee Description | Fee Paid | 105 130 | 205 65             | Surcharge - late filing fee or oath |         | 127 50  | 227 25            | Surcharge - late provisional filing fee or cover sheet. |         | 139 130 | 139 130          | Non-English specification |         | 147 2,520 | 147 2,520          | For filing a request for reexamination |         | 112 920* | 112 920*               | Requesting publication of SIR prior to Examiner action |                     | 113 1,840* | 113 1,840* | Requesting publication of SIR after Examiner action |              | 115 110 | 215 55         | Extension for reply within first month |           | 116 400 | 216 200 | Extension for reply within second month |                            | 117 950 | 217 475 | Extension for reply within third month |                             | 118 1,510 | 218 755 | Extension for reply within fourth month |               | 128 2,060     | 228 1,030       | Extension for reply within fifth month |        | 119 310 | 219 155                | Notice of Appeal |        | 120 310 | 220 155                           | Filing a brief in support of an appeal |         | 121 270 | 221 135                  | Request for oral hearing |        | 138 1,510 | 138 1,510                                       | Petition to institute a public use proceeding |        | 140 110 | 240 55  | Petition to revive - unavoidable |                     | 141 1,320 | 241 660 | Petition to revive - unintentional |  | 142 1,320 | 242 660 | Utility issue fee (or reissue) |  | 143 450 | 243 225 | Design issue fee |  | 144 670 | 244 335 | Plant issue fee |  | 122 130 | 122 130 | Petitions to the Commissioner |  | 123 50 | 123 50 | Petitions related to provisional applications |  | 126 240 | 126 240 | Submission of Information Disclosure Stmt |  | 581 40 | 581 40 | Recording each patent assignment per property (times number of properties) |  | 146 790 | 246 395 | Filing a submission after final rejection (37 CFR 1.129(a)) |  | 149 790 | 249 395 | For each additional invention to be examined (37 CFR 1.129(b)) |  | Other fee (specify) _____ |  |  |  | Other fee (specify) _____ |  |  |  | * Reduced by Basic Filing Fee Paid |  | <b>SUBTOTAL (3)</b> (\$ ) 0.00 |  |
| Large Entity Fee Code (\$)  | Small Entity Fee Code (\$)   | Fee Description  | Fee Paid                   |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 105 130   | 205 65   | Surcharge - late filing fee or oath  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 127 50  | 227 25   | Surcharge - late provisional filing fee or cover sheet.                    |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 139 130   | 139 130  | Non-English specification  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 147 2,520   | 147 2,520  | For filing a request for reexamination                                     |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 112 920*  | 112 920*   | Requesting publication of SIR prior to Examiner action                     |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 113 1,840*  | 113 1,840*   | Requesting publication of SIR after Examiner action                        |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 115 110   | 215 55   | Extension for reply within first month                                     |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 116 400   | 216 200  | Extension for reply within second month                                    |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 117 950   | 217 475  | Extension for reply within third month                                     |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 118 1,510   | 218 755  | Extension for reply within fourth month                                    |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 128 2,060   | 228 1,030  | Extension for reply within fifth month                                     |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 119 310   | 219 155  | Notice of Appeal   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 120 310   | 220 155  | Filing a brief in support of an appeal                                     |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 121 270   | 221 135  | Request for oral hearing   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 138 1,510   | 138 1,510  | Petition to institute a public use proceeding                              |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 140 110   | 240 55   | Petition to revive - unavoidable   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 141 1,320   | 241 660  | Petition to revive - unintentional   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 142 1,320   | 242 660  | Utility issue fee (or reissue)   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 143 450   | 243 225  | Design issue fee   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 144 670   | 244 335  | Plant issue fee  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 122 130   | 122 130  | Petitions to the Commissioner  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 123 50  | 123 50   | Petitions related to provisional applications                              |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 126 240   | 126 240  | Submission of Information Disclosure Stmt                                  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 581 40  | 581 40   | Recording each patent assignment per property (times number of properties) |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 146 790   | 246 395  | Filing a submission after final rejection (37 CFR 1.129(a))                |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 149 790   | 249 395  | For each additional invention to be examined (37 CFR 1.129(b))             |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| Other fee (specify) _____   |  |  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| Other fee (specify) _____   |  |  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| * Reduced by Basic Filing Fee Paid  |  | <b>SUBTOTAL (3)</b> (\$ ) 0.00   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| <p><b>FEE CALCULATION</b></p> <p><b>1. FILING FEE</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Large Entity Fee Code (\$)</th> <th>Small Entity Fee Code (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>101 790</td><td>201 395</td><td>Utility filing fee</td><td>345</td></tr> <tr><td>106 330</td><td>206 165</td><td>Design filing fee</td><td></td></tr> <tr><td>107 540</td><td>207 270</td><td>Plant filing fee</td><td></td></tr> <tr><td>108 790</td><td>208 395</td><td>Reissue filing fee</td><td></td></tr> <tr><td>114 150</td><td>214 75</td><td>Provisional filing fee</td><td></td></tr> <tr> <td colspan="3" style="text-align: right;"><b>SUBTOTAL (1)</b></td> <td style="text-align: right;">(\$ ) 345.00</td> </tr> </tbody> </table> <p><b>2. CLAIMS</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Total Claims</th> <th>Extra</th> <th>Fee from below</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr> <td>45 - 20 =</td> <td>25</td> <td>X 9 =</td> <td>225</td> </tr> <tr> <td>Independent Claims 5 - 3 =</td> <td>2</td> <td>X 39 =</td> <td>78</td> </tr> <tr> <td>Multiple Dependent Claims 0</td> <td>X 0 =</td> <td></td> <td>303</td> </tr> </tbody> </table> <p><b>Large Entity Small Entity</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Fee Code (\$)</th> <th>Fee Code (\$)</th> <th>Fee Description</th> <th>Fee Paid</th> </tr> </thead> <tbody> <tr><td>103 22</td><td>203 11</td><td>Claims in excess of 20</td><td></td></tr> <tr><td>102 82</td><td>202 41</td><td>Independent claims in excess of 3</td><td></td></tr> <tr><td>104 270</td><td>204 135</td><td>Multiple dependent claim</td><td></td></tr> <tr><td>109 82</td><td>209 41</td><td>Reissue independent claims over original patent</td><td></td></tr> <tr><td>110 22</td><td>210 11</td><td>Reissue claims in excess of 20 and over original patent</td><td></td></tr> <tr> <td colspan="3" style="text-align: right;"><b>SUBTOTAL (2)</b></td> <td style="text-align: right;">(\$ ) 303.00</td> </tr> </tbody> </table> | Large Entity Fee Code (\$)   | Small Entity Fee Code (\$)   | Fee Description            | Fee Paid        | 101 790  | 201 395 | Utility filing fee | 345                                 | 106 330 | 206 165 | Design filing fee |   | 107 540 | 207 270 | Plant filing fee |                           | 108 790 | 208 395   | Reissue filing fee |  | 114 150 | 214 75   | Provisional filing fee |  | <b>SUBTOTAL (1)</b> |            |            | (\$ ) 345.00  | Total Claims | Extra   | Fee from below | Fee Paid                               | 45 - 20 = | 25      | X 9 =   | 225                                     | Independent Claims 5 - 3 = | 2       | X 39 =  | 78                                     | Multiple Dependent Claims 0 | X 0 =     |         | 303                                     | Fee Code (\$) | Fee Code (\$) | Fee Description | Fee Paid                               | 103 22 | 203 11  | Claims in excess of 20 |                  | 102 82 | 202 41  | Independent claims in excess of 3 |  | 104 270 | 204 135 | Multiple dependent claim |                          | 109 82 | 209 41    | Reissue independent claims over original patent |   | 110 22 | 210 11  | Reissue claims in excess of 20 and over original patent |                                  | <b>SUBTOTAL (2)</b> |           |         | (\$ ) 303.00                       |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| Large Entity Fee Code (\$)  | Small Entity Fee Code (\$)   | Fee Description  | Fee Paid                   |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 101 790   | 201 395  | Utility filing fee   | 345                        |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 106 330   | 206 165  | Design filing fee  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 107 540   | 207 270  | Plant filing fee   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 108 790   | 208 395  | Reissue filing fee   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 114 150   | 214 75   | Provisional filing fee   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| <b>SUBTOTAL (1)</b>   |  |  | (\$ ) 345.00               |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| Total Claims  | Extra  | Fee from below   | Fee Paid                   |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 45 - 20 =   | 25   | X 9 =  | 225                        |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| Independent Claims 5 - 3 =  | 2  | X 39 =   | 78                         |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| Multiple Dependent Claims 0   | X 0 =  |  | 303                        |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| Fee Code (\$)   | Fee Code (\$)  | Fee Description  | Fee Paid                   |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 103 22  | 203 11   | Claims in excess of 20   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 102 82  | 202 41   | Independent claims in excess of 3  |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 104 270   | 204 135  | Multiple dependent claim   |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 109 82  | 209 41   | Reissue independent claims over original patent                            |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| 110 22  | 210 11   | Reissue claims in excess of 20 and over original patent                    |                            |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |
| <b>SUBTOTAL (2)</b>   |  |  | (\$ ) 303.00               |                 |          |         |                    |                                     |         |         |                   |   |         |         |                  |                           |         |           |                    |  |         |          |                        |  |                     |            |            |   |              |         |                |  |           |         |         |   |                            |         |         |  |                             |           |         |   |               |               |                 |  |        |         |                        |                  |        |         |                                   |  |         |         |                          |                          |        |           |   |   |        |         |   |                                  |                     |           |         |                                    |  |           |         |                                |  |         |         |                  |  |         |         |                 |  |         |         |                               |  |        |        |   |  |         |         |   |  |        |        |  |  |         |         |   |  |         |         |  |  |                           |  |  |  |                           |  |  |  |                                    |  |                                |  |

| SUBMITTED BY   |  |                       |  | Complete (if applicable) |  |
|--|--|-----------------------|--|--------------------------|--|
| Typed or Printed Name<br>Henry E. Bartony, Jr.   |  | Reg. Number<br>34,772 |  | Deposit Account User ID  |  |
| Signature<br> |  | Date<br>Feb 18, 2000  |  | Deposit Account User ID  |  |

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